

Serial No.: 10/615,842

## REMARKS

### I. Status Summary

Claims 1-30 and 33-62 are pending in the present application and have been examined. Claim 31 has previously been withdrawn pursuant to a restriction requirement. Claims 1-30 and 33-62 presently stand rejected.

Claim 31 has been objected to as allegedly being drawn to non-elected subject matter.

Claims 1-30 and 33-62 have been provisionally rejected on the ground of nonstatutory obviousness-type double patenting upon the contention that the claims are unpatentable over claims in U.S. Patent Application No. 09/996,695 (hereinafter "the '695 application") in view of U.S. Patent No. 6,616,497 to Choi *et al.* (hereinafter "Choi").

Additionally, claims 1-30 and 33-62 stand rejected under 35 U.S.C. § 103(a) upon the contention that the claims are unpatentable over published European Patent Application EP 989,579 to Bower *et al.* (hereinafter "Bower") in view of Choi.

By this Amendment, claims 1, 5, 11, 15, 27, 36, 37, 40, 46, and 54 have been amended and claims 8-10, 12, 14, 16, 21, 22, 26, 31, 45, and 59-62 have been cancelled. New claims 63-65 have been added. Support for the amendments and new claims can be found throughout the specification as filed, and particularly at pages 17 and 18. No new matter has been added.

Serial No.: 10/615,842

Therefore, upon entry of the Amendment, claims 1-7, 11, 13, 15, 17-20, 23-25, 27-30, 33-44, 46-58, and 63-65 will be pending in the subject application.

## II. Response to the Objection of Claim 31

The Examiner has objected to claim 31 as allegedly being directed to non-elected subject matter.

Applicants respectfully note that claim 31 has been cancelled herein. Accordingly, applicants respectfully submit that the instant objection has been addressed.

## III. Response to the Rejection of Claims Under 35 U.S.C. § 103(a)

Claims 1-30 and 33-62 stand rejected under 35 U.S.C. § 103(a) upon the contention that the claims are unpatentable over Bower in view of Choi. The Examiner asserts that Bower discloses the claimed method of electrophoretic deposition, but does not teach the use of a mask as claimed. However, Choi is relied upon for teaching the use of a mask for patterned electrophoretic deposition and disclosure of the use of resists to form the mask. Therefore, the Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Bower with the teachings of Choi.

The positions of the Examiner as summarized above with respect to the rejected claims are respectfully traversed as described below.

Serial No.: 10/615,842

Initially, applicants submit that claims 8-10, 12, 14, 16, 21, 22, 26, 31, 45, and 59-62 have been cancelled herein. As such, rejections pertaining to these claims are moot.

The Examiner asserts that Choi teaches the use of a photoresist mask for patterned electrophoretic deposition. Therefore, the Examiner asserts that it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teachings of Bower with the teachings of Choi to practice the claimed subject matter. However, applicants respectfully submit that Choi, at best, briefly summarizes a method of manufacturing a conventional field emitter as disclosed in the prior art, wherein a photoresist mask is used to form gates in a gate layer. After removing the photoresist mask, the gate layer is used as an etching mask to etch a hole in a dielectric film which exposes an electrode upon which an electron emitter is deposited. See Choi, column 1, lines 39-55.

Further, Applicants respectfully submit that the Patent Office is not considering the disclosure of Choi in its entirety, and thus has not followed the requirement of M.P.E.P. § 2141.02, which states: "A prior art reference must be considered in its entirety, i.e., as a whole, including portions that would lead away from the claimed invention. W.L. Gore & Associates, Inc. v. Garlock, Inc., 721 F.2d 1540, 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984)" (emphasis added).

Particularly, applicants respectfully submit that the Examiner has referred only to a selected portion of the background section of Choi in asserting that Choi teaches a photoresist mask, which in combination with Bower, allegedly renders the instant

Serial No.: 10/615,842

claimed subject matter obvious. However, applicants respectfully submit that in considering the disclosure of Choi in its entirety, as required by M.P.E.P. § 2141.02, one of skill in the art would not be motivated to employ the asserted teachings of Choi referenced by the Examiner. In particular, the background section of Choi referenced by the Examiner briefly discusses a photoresist mask and methods related thereto. However, Choi describes these methods as having several problems. See, column 1, line 56, through column 2, line 7 of Choi. Having described these problems in the background section, Choi then proceeds to disclose the invention, which is directed to overcoming these problems. Therefore, upon considering the disclosure of Choi in its entirety, one of skill in the art would not have been motivated to employ the teachings of Choi as alleged by the Examiner. Accordingly, applicants respectfully submit that the combined teachings of Bower and Choi do not support a rejection of claims 1, 40 and 46 under 35 U.S.C. § 103(a).

Continuing with the instant rejection, applicants respectfully submit that claim 1, step (ii), has been amended herein to recite “masking at least a portion of at least one surface of the substrate by depositing a release layer on the surface of the substrate, depositing a layer of photoresist on the release layer and forming a pattern of openings therein by UV photolithography. Support for the amendment can be found in the specification as filed. See, for example, pages 17-19.

Applicants respectfully submit that neither Bower nor Choi, nor the proposed combination thereof, teach or suggest each and every element of independent claims 1, 40 and 46. The Examiner asserts that Choi teaches the use of a photoresist mask

Serial No.: 10/615,842

for patterned electrophoretic deposition. However, applicants respectfully submit that Choi does not teach or suggest masking at least a portion of at least one surface of the substrate by depositing a release layer on the surface of the substrate, depositing a layer of photoresist on the release layer and forming a pattern of openings therein by UV photolithography, as recited in claims 1 and 46. Specifically, applicants respectfully submit that nowhere does Choi teach or suggest the use of a release layer in conjunction with a photoresist in patterned electrophoretic deposition.

Applicants respectfully submit that claim 40 recites, *inter alia*, depositing a layer of insoluble photoresist on the surface of the substrate. However, applicants respectfully submit that nowhere does Choi teach or suggest the use of an insoluble photoresist in a method of fabricating a patterned electron field emission cathode. As such, applicants respectfully submit that Bower and Choi, either alone or in combination, do not teach or disclose each and every element of claim 40.

Accordingly, applicants respectfully submit that Bower and Choi, either alone or in combination, do not support a rejection of claims 1, 40 and 46. Therefore, applicants respectfully request that the rejection of claims 1, 40 and 46 under 35 U.S.C. § 103(a) over Bower and Choi be withdrawn and also request that claims 1, 40 and 46 be allowed at this time.

As each of claims 2-7, 11, 13, 15, 17-20, 23-25, 27-30, 33-39, 41-44, and 47-58 depend from claims 1, 40 and 46, they too are believed to be patentable over the proposed combination of cited art for at least the same reasons as discussed above. Thus, applicants submit that claims 2-7, 11, 13, 15, 17-20, 23-25, 27-30, 33-39, 41-

Serial No.: 10/615,842

44, and 47-58 are patentable over the combination of Bower and Choi. Thus, applicants respectfully request that the rejection of claims 2-7, 11, 13, 15, 17-20, 23-25, 27-30, 33-39, 41-44, and 47-58 under 35 U.S.C. § 103(a) over Bower and Choi be withdrawn, and request that claims 2-7, 11, 13, 15, 17-20, 23-25, 27-30, 33-39, 41-44, and 47-58 be allowed at this time.

#### IV. Response to the Obviousness Type Double Patenting Rejection

Claims 1-30 and 33-62 have been provisionally rejected on the ground of nonstatutory obviousness-type double patenting upon the contention that the claims are unpatentable over claims in the '695 application in view of Choi. While the Examiner concedes that the '695 application fails to disclose the use of a photoresist layer as a mask, the Examiner asserts that Choi compensates for this deficiency by showing that it is known in the art to use a photoresist as a mask. In particular, the Examiner contends that it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the claimed invention of the '695 application by applying a photoresist mask, as taught by Choi, to prevent the covered layers from being treated.

Initially, applicants submit that claims 8-10, 12, 14, 16, 21, 22, 26, 31, 45, and 59-62 have been cancelled herein. As such, rejections pertaining to these claims have been mooted.

Applicants refer to the discussion hereinabove regarding the obviousness rejection under 35 U.S.C. § 103(a) over Bower and Choi. As applied in the instant

Serial No.: 10/615,842

rejection, applicants respectfully submit that one of skill in the art would not be motivated, based upon a reading of Choi in its entirety, to combine the teachings of Choi with the '695 application.

Further, applicants respectfully submit that neither the '695 application nor Choi, nor the proposed combination thereof, teach or suggest each and every element of independent claims 1, 40 and 46, as amended herein. In particular, applicants respectfully submit that nowhere does Choi teach or suggest the use of a release layer in conjunction with a photoresist in patterned electrophoretic deposition, as recited in claims 1 and 46. In addition, applicants respectfully submit that nowhere does Choi teach or suggest the use of an insoluble photoresist in a method of fabricating a patterned electron field emission cathode as recited in claim 40.

Accordingly, applicants respectfully submit that the combined teachings of the '695 application and Choi do not support a provisional nonstatutory obviousness-type double patenting rejection of claims 1, 40 and 46. As such, applicants respectfully request that the provisional nonstatutory obviousness-type double patenting rejection of claims 1, 40 and 46 be withdrawn, and request claims 1, 40 and 46 be allowed at this time.

As each of claims 2-7, 11, 13, 15, 17-20, 23-25, 27-30, 33-39, 41-44, and 47-58 depend from claims 1, 40 and 46, they too are believed to be patentable over the proposed combination of cited art for at least the same reasons as discussed above. Thus, applicants submit that claims 2-7, 11, 13, 15, 17-20, 23-25, 27-30, 33-39, 41-44, and 47-58 are patentable over the combination of the '695 application and Choi.

Serial No.: 10/615,842

Thus, applicants respectfully request that the provisional nonstatutory obviousness-type double patenting rejection of claims 2-7, 11, 13, 15, 17-20, 23-25, 27-30, 33-39, 41-44, and 47-58 be withdrawn, and request that claims 2-7, 11, 13, 15, 17-20, 23-25, 27-30, 33-39, 41-44, and 47-58 be allowed at this time.

#### V. New Claims

New claims 63-65 have been added. Support for the new claims can be found throughout the specification as filed, including particularly at pages 17-18. Accordingly, no new matter has been added by the addition of the new claims.

Applicants respectfully submit that claims 63-65 are believed to be distinguished over the cited references for the reasons set forth hereinabove. As such, applicants respectfully submit that none of the cited references would support a rejection of new claims 63-65.



Serial No.: 10/615,842

CONCLUSION

In light of and upon entry of the above amendments and remarks, it is respectfully submitted that the present application is now in proper condition for allowance, and an early notice to such effect is earnestly solicited.

If any small matter should remain outstanding after the Patent Examiner has had an opportunity to review the above Remarks, the Patent Examiner is respectfully requested to telephone the undersigned patent attorney in order to resolve these matters and avoid the issuance of another Official Action.

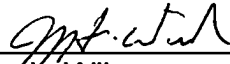
FEE DUE

A check in the amount of \$1,440.00 is enclosed for the fee due (\$630.00 representing the amount due for claims and \$810.00 due for Request for Continued Examination fee). The Commissioner is authorized to charge any deficiencies of payment associated with the filing of this correspondence to Deposit Account No. 50-0426 to avoid the unintentional abandonment of the instant application.

Respectfully submitted,

JENKINS, WILSON, TAYLOR & HUNT, P.A.

Date: 12-7-07

By:   
Jeffrey L. Wilson  
Registration No. 36,058  
Customer No: 25297

421/170/8/2 CIP